Claims

1. A double-sided indexable cutting insert for chip removing machining, wherein said cutting insert (10;10') has a negative, polygonal basic shape and comprises cutting corners (17;17'), wherein each cutting corner comprises a nose edge (18;18') and a minor cutting edge (19;19'), wherein the nose edge connects to a major cutting edge (15A,15B;15A',15B') and to the minor cutting edge, wherein a bisector (B) of the corner intersects the nose edge, wherein upper cutting edges (15A,15B;15A',15B') are formed in transitions between a top side (11;11') and an edge surface (13;13') of the cutting insert, wherein lower cutting edges are formed in transitions between a bottom side (12;12') and the edge surface (13;13'), said sides (11,12) constituting a rake face in one position and a support surface in another position, and said edge surface (13;13') constituting an edge surface, wherein each cutting corner (17;17') is asymmetrical in relation to the bisector (B) of the corner, wherein the nose edge (18;18') is defined by a radius (R1) that is smaller than a radius (R2) of the minor cutting edge, each side (11,12;11',12') comprising a plurality of nose edges (18;18'), which at least partly touch a plane (P;P'), c h a r a c t e r i z e d in that an imaginary line (L;L'), which is perpendicular to the plane (P;P') and which touches the minor cutting edge (19;19'), intersects the edge surface (13;13') and that the minor cutting edge (19;19') is curved.

2. The cutting insert according to claim 1, c h a r a c t e r i z e d in that the imaginary line (L) intersects the edge surface (13) at a distance (L1) from the minor cutting edge that equals about half of the thickness of the cutting insert (L2).

3. The cutting insert according to claim 1 or 2, c h a r a c t e r i z e d in that the line (L) coincides with the edge surface (13) for about half of the thickness (L2) of the cutting insert.

4. The cutting insert according to any one of the preceding claims, c h a r a c t e r i z e d in that the edge surface (13) has a step (20A,20B) on both sides of the bisector (B) of the cutting corner, which step is substantially parallel with the plane (P).

5. The cutting insert according to claim 4, c h a r a c t e r i z e d in that the step (20A,20B) forms a sharp corner (21) with the edge surface (13) below the step (20A,20B) in order to constitute an indication of fracture.

6. The cutting insert according to any one of the preceding claims, c h a r a c t e r i z e d in that the cutting insert has a substantially constant clearance angle around the cutting insert.

7. The cutting insert according to any one of the preceding claims, c h a r a c t e r i z e d in that it consists of cubic boron nitride (CBN) or a combination of CBN and cemented carbide where the cutting corners consist of CBN plates.

8. The cutting insert according to any one of the preceding claims, c h a r a c t e r i z e d in that the bisector (B) intersects the nose edge (18;18'), both at the top and the bottom side (11,12;11',12').

9. Method for manufacturing a cutting insert for chip removing machining from a polygonal plate of a hard wear-resistant material having a thickness (L2) and equally large side surfaces, wherein the plate comprises a plurality of corner portions, the method comprising the following steps:
- fasten the plate in a fixture,
- machining at least one corner portion, preferably by means of grinding, so that a first area, corresponding to approximately half of the thickness (L2), obtains a rounded nose edge (18), a minor cutting edge (19) and an edge surface (13),
- turn the polygonal plate upside down and fasten it to the fixture again,

- machining the corner portion, preferably by means of grinding, so that a second area, corresponding to approximately half of the thickness (L2), obtains a rounded nose edge (18), a minor cutting edge (19) and an edge surface (13),
- said machining of said first and second areas providing a double-sided indexable cutting insert wherein an imaginary line (L), which is perpendicular to a plane (P) containing the nose edge (18), and which touches the minor cutting edge (19), intersects the edge surface (13).

10. Method according to claim 9, comprising the following additional step,
- machine the nose edge (18) so that it obtains a radius (R1) that is smaller than a radius (R2) of the minor cutting edge.